

### AMENDMENTS TO THE CLAIMS

1. (Cancelled)
2. (Currently Amended) The ~~solid-state image pick-up apparatus device~~ according to claim 4 1, wherein the fourth filter transmits for distinguishing a light source type also serves to transmit a light having a wavelength of 640 nm or more.
3. (Currently Amended) The ~~solid-state image pick-up apparatus device~~ according to claim 4 1 ~~or 2~~, wherein the predetermined region is an invalid pixel region of the solid-state image pick-up device.
4. (Currently Amended) An image pick-up apparatus comprising:  
an optical lens system;  
a the solid-state image pick-up device that converts according to claim 1 which serves to convert a light signal incident through the optical lens system into an electric signal, the solid-state image pick-up device comprising  
first pixels that are used to pick up a color image,  
a second pixel disposed in a predetermined region of the solid-state image pick-up device, the second pixel being used for distinguishing a light source type,  
first to third filters mounted on the first pixels, and  
a fourth filter for transmitting a light having at least a wavelength of 520 nm or 580 nm, the fourth filter being mounted on the second pixel; and  
a and-control unit means that distinguishes a light source type based on (i) a signal charge output from a first pixel mounted with the first filter and (ii) a signal charge output from the second pixel for processing a signal charge read from the pixel for distinguishing a light source type of the solid-state image pick-up device to distinguish a photographing light source type, wherein the control unit automatically adjusts and for automatically adjusting a white balance of a color pick-up image of the solid-state image pick-up device.

5. (Currently Amended) A digital camera comprising:  
a color image pick-up unit that picks up ~~means for picking up~~ a color image of an object;  
and

a signal processing unit that separates ~~means for separating~~ a color signal output from the color image pick-up unit ~~means~~ into a luminance signal and a color difference signal, the signal processing unit ~~and~~ multiplying the color difference signal by a color difference matrix, to carry ~~thereby carrying out~~ a color correction; and, ~~wherein there is provided~~

a color difference matrix switching unit that stores ~~means for preparing~~ a color difference matrix for obtained when a photographing light source is a sunlight and a color difference matrix for obtained when the photographing light source is a specific light source other than the sunlight, the color difference matrix switching unit switching ~~and switch~~ing the color difference matrix depending on whether a light source in the photographing is the sunlight or the specific light source, to carry ~~thereby carrying out~~ the color correction.

6. (Original) The digital camera according to claim 5, wherein the specific light source is an F6 light source.

7. (Original) The digital camera according to claim 5, wherein the specific light source is an F12 light source.

8. (Currently Amended) The digital camera according to claim 5, wherein:  
the specific light source includes an F6 light source and an F12 light source,  
the color difference matrix switching unit stores each of color difference matrices for the F6 light source and the F12 light source ~~is prepared as the color difference matrices~~ ~~for the~~ specific light sources, and

the color difference matrix switching unit ~~means~~ switches the color difference matrix depending on whether the specific light source is the F6 light source, ~~or~~ the F12 light source, or the sunlight, to carry ~~thereby carrying out~~ the color correction.

9. (Currently Amended) The digital camera according to any of claims 5 to 8, further comprising a light source type distinction sensor, wherein:

the color difference matrix switching unit ~~means~~ automatically switches ~~switching a~~ the color difference matrix based on a result of detection of the light source type distinction sensor.

10. (Currently Amended) The digital camera according to claim 9, wherein the light source type distinction sensor is incorporated integrally with the color image pick-up unit ~~means~~.

11. (New) The image pick-up apparatus according to claim 4, wherein:

an optical spectral characteristic of the first filter corresponds to green,  
an optical spectral characteristic of the second filter corresponds to red, and  
an optical spectral characteristic of the third filter corresponds to blue.

12. (New) The image pick-up apparatus according to claim 4, wherein the first pixels are disposed in a valid region of the solid-state image pick-up device.

13. (New) The image pick-up apparatus according to claim 4, wherein the first to fourth filters are different from each other in optical spectral characteristics.

14. (New) The image pick-up apparatus according to claim 4, wherein the control unit distinguishes the light source type based on a value obtained by dividing an output value corresponding to the signal charge output from the second pixel by at least an output value corresponding to the signal charge output from the first pixel mounted with the first filter.

15. (New) The image pick-up apparatus according to claim 14, wherein the control unit distinguishes the light source type based on the value obtained by the following formula:

$$\frac{X_4}{k1 \cdot X_1 + k2 \cdot X_2 + k3 \cdot X_3}$$

wherein

$X_1$  denotes an output value corresponding to the signal charge output from a first pixel mounted with the first filter,

$X_2$  denotes an output value corresponding to the signal charge output from the first pixel mounted with the second filter,

$X_3$  denotes an output value corresponding to the signal charge output from the first pixel mounted with the third filter,

$X_4$  denotes the output value corresponding to the signal charge output from the second pixel, and

$k_1$  to  $k_3$  are coefficients.

16. (New) The image pick-up apparatus according to claim 4, wherein the control unit adjusts a white balance of the color pick-up image of the solid-state image pick-up device based on the distinguished light source type.